

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3956 (1967): Dimensions and spools for magnetic tapes for sound recording and reproduction [LITD 7: Audio, Video and Multimedia Systems and Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS: 3956 - 1967

Indian Standard

**DIMENSIONS OF SPOOLS FOR
MAGNETIC TAPES FOR SOUND
RECORDING AND REPRODUCTION**

(Second Reprint JUNE 1993)

UDC 681.846.7.089

© *Copyright* 1967

**BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002**

Indian Standard

DIMENSIONS OF SPOOLS FOR MAGNETIC TAPES FOR SOUND RECORDING AND REPRODUCTION

Acoustics Sectional Committee, ETDC 27

Chairman

DR M. PANCHOLY

Representing

National Physical Laboratory (CSIR), New Delhi

Members

SHRI A. N. AHUJA

Ahuja Radios, New Delhi

SHRI I. S. AHUJA (*Alternate*)

SHRI G. S. BOLINA

G. W. Balkar & Co, Jullundur

SHRI H. JOGA RAO

State Broadcasting Department, Government of
Andhra Pradesh

SHRI J. S. MONGA

All India Radio Merchants' Association, Bombay

SHRI V. J. BHATT (*Alternate*) (Bombay)

SHRI D. N. CHAUDHURI (*Alternate*) (Calcutta)

SHRI L. S. V. EASWAR (*Alternate*) (Madras)

SHRI S. N. MUKERJI

National Test House, Calcutta

SHRI B. P. GHOSH (*Alternate*)

SHRI M. S. NARAYANAN

Directorate General of Defence Research & De-
velopment (Ministry of Defence)

SHRI A. V. PAI

Electronics Limited, Faridabad

SHRI H. SINGH (*Alternate*)

DR B. S. RAMAKRISHNA

Indian Institute of Science, Bangalore

RESEARCH ENGINEER

Directorate General of All India Radio (Ministry
of Information & Broadcasting)

DR (SMT) C. K. KESAVAN (*Alternate*)

SHRI M. SANKARALINGAM

Inspection Wing, Directorate General of Supplies
& Disposals (Ministry of Supply, Technical
Development and Materials Planning)

SHRI M. V. SHANKAR

Railway Board (Ministry of Railways)

(Continued on page 2)

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BHADUR SHAH ZAFAR MARG
NEW DELHI 110002

IS : 3956 - 1967

(Continued from page 1)

Members

DR D. L. SUBRAHMANYAM

Central Electronics Engineering Research Institute
(CSIR), Pilani

SHRI K. D. PAVATE (*Alternate*)

SHRI T. S. SUBRAMANIAN

Posts and Telegraphs Board (Department of
Communications)

LT-COL D. SWAROOP

Directorate General of Inspection (Ministry of
Defence)

MAJ M. S. NAGARAJAN (*Alternate*)

SHRI S. VENKATARAMAN

The Radio Electronic & Television Manufacturers
Association, Calcutta

SHRI S. C. ISRANI (*Alternate*)

SHRI Y. S. VENKATESWARAN,

Director (Elec tech)

Director General, ISI (*Ex-officio Member*)

Secretary

SHRI N. SRINIVASAN
Deputy Director (Elec tech), ISI

Panel for Tapes and Tape Recorders, ETDC 27/P5

Convener

DR M. FANCHOLY

National Physical Laboratory (CSIR), New Delhi

Members

SHRI N. KRISHNAMURTHY

Directorate General of All India Radio (Ministry
of Information & Broadcasting)

SHRI R. S. MUNDKUR

Bharat Electronics Ltd, Bangalore

SHRI G. S. CHANDRASEKHAR (*Alternate*)

SHRI U. C. SINHA

Film Institute of India (Ministry of Information
and Broadcasting)

Indian Standard

DIMENSIONS OF SPOOLS FOR MAGNETIC TAPES FOR SOUND RECORDING AND REPRODUCTION

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 January 1967, after the draft finalized by the Acoustics Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 The object of this standard which specifies the dimensions and tolerances of spools for magnetic tapes for sound recording and reproduction, is to ensure that the spools for magnetic tapes may be used in different tape recorders. Dimensions which are of importance in achieving interchangeability and in securing adequate mechanical strength, have been specified in this standard.

0.3 This standard closely follows IEC document 29A (Central Office) 19: Revision of IEC Pub. 94: 'Magnetic tape recording and reproducing systems: Dimensions and characteristics' prepared by the International Electrotechnical Commission; assistance has also been derived from B.S. 1568: 1960 'Magnetic tape sound recording and reproduction' issued by British Standards Institution.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS: 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies dimensions and tolerances of spools for magnetic tapes for sound recording and reproduction, essential for interchangeability.

*Rules for rounding off numerical values (*revised*).

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Magnetic Tape — Recording medium in the form of tape which may be either of homogeneous ferromagnetic material, or of non-magnetic material (for example, cellophane, synthetic resins) coated or impregnated with magnetizable powders.

2.2 Spool — A device for supporting tape, consisting of a spool centre (or hub) with or without a flange or flanges, and adapted for use on recording or reproducing apparatus.

3. DIMENSIONS

3.1 The spools for magnetic tapes for sound recording and reproduction shall be one of the following two types:

- a) *Professional Type Spools* — The spools shall have the dimensions specified in Fig. 1 and Table 1.
- b) *Cine Type Spools* — The spools shall have the dimensions specified in Fig. 2 and Table 2.

NOTE 1 — Although flanges are shown solid, cut-outs are permissible provided the flange is sufficiently robust.

NOTE 2 — Tape anchoring devices should not disturb the even winding of the tape in the spool.

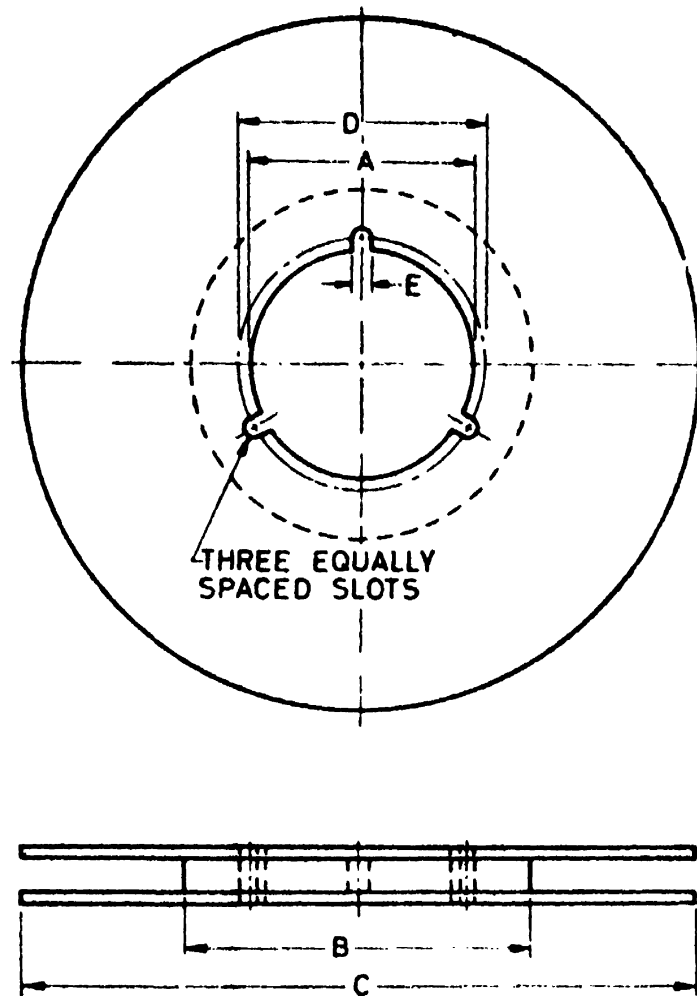


FIG. 1 PROFESSIONAL TYPE SPOOL*

TABLE 1 DIMENSIONS OF PROFESSIONAL TYPE SPOOL

[Clause 3.1(a)]

DIMENSION	MINIMUM mm	MAXIMUM mm
<i>A</i>	76.20	76.30
<i>B</i>	114.05	114.55
<i>C</i>	266.70	267.21
<i>D</i>	82.50	82.60
<i>E</i>	5.56	5.72
<i>F</i>	11.35	11.61

NOTE -- Diameters *A* and *C* to be concentric within 0.125 mm total clock reading.

*This corresponds to Type II spools specified in IEC Pub 94: Magnetic tape recording and reproducing systems: Dimensions and characteristics.

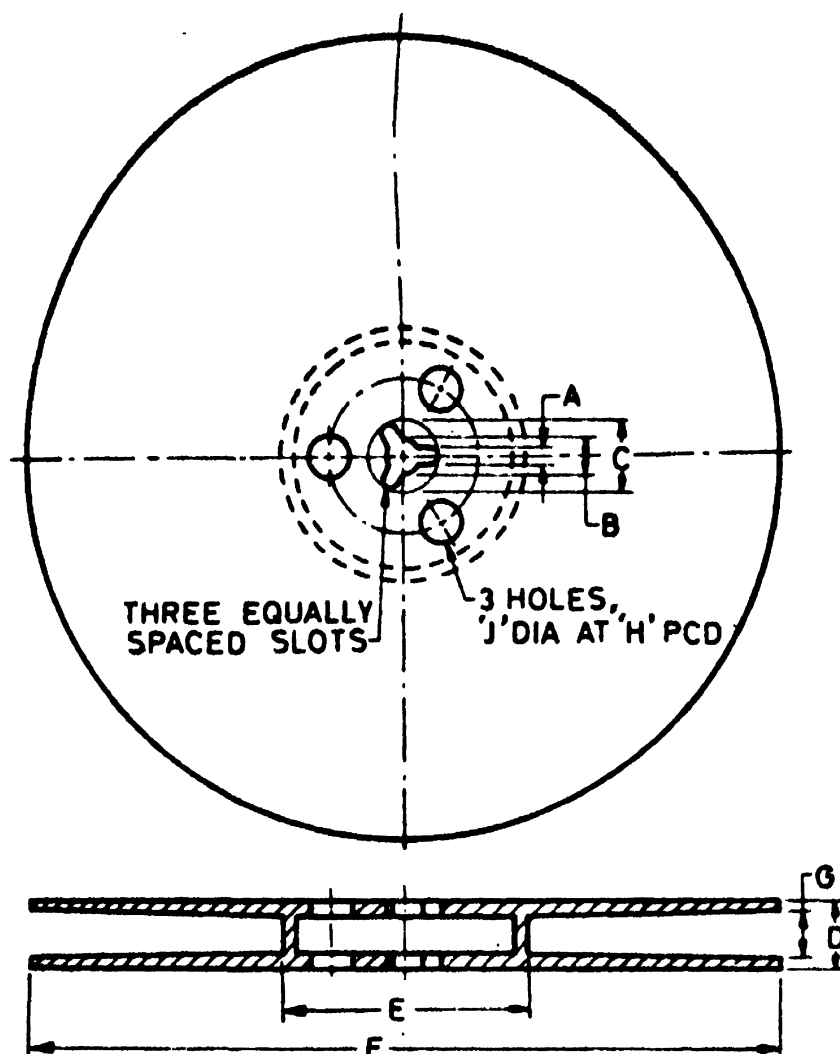


FIG. 2 CINE TYPE SPOOL*

TABLE 2 DIMENSIONS OF CINE TYPE SPOOLS

[Clause 3.2(b)]

DIMENSION	MINIMUM mm	MAXIMUM mm
A	1.50	1.91
B	8.00	8.20
C	16.00	—
D	12.75	13.50
E & F	(See sub-table below)	
G	8.50	—
H	34.90	35.05
J	9.53	9.65
STANDARD SIZE	ACTUAL OUTER DIAMETER F mm	MINIMUM CORE DIAMETER E mm
75	76	35
100	102	35
130	127	45
150	146	50
180	178	57
250	249	100

*This corresponds to Type III spools specified in IEC Pub 94: Magnetic tape recording and reproducing systems : Dimensions and characteristics.

AMENDMENT NO. 1 MAY 1969

TO

**IS : 3956-1967 DIMENSIONS OF SPOOLS FOR
MAGNETIC TAPES FOR SOUND
RECORDING AND REPRODUCTION**

Alteration

(*Page 6, Fig. 2*) — Substitute “ 3 HOLES, ‘J’ DIA AT ‘H’ PCD
OPTIONAL AND ONLY APPLICABLE TO SPOOLS WITH A
HUB DIAMETER GREATER THAN 45 mm ” *for* “ 3 HOLES, ‘J’
DIA AT ‘H’ PCD ”.

(ETDC 27)

Reprography Unit, BIS, New Delhi, India

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 331 01 31, 331 13 75

Telegrams: Manaksanstha
(Common to all Offices)

Regional Offices:

Telephone

Central	Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002	{ 331 01 31 331 13 75
*Eastern	1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola, CALCUTTA 700054	36 24 99
Northern	SCO 445-446, Sector 35-C, CHANDIGARH 160036	{ 2 18 43 3 16 41
Southern	C. I. T. Campus, MADRAS 600113	{ 41 24 42 41 25 19 41 29 16
†Western	Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400093	6 32 92 95

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMADABAD 380001	{ 2 63 48 2 63 49
†Peenya Industrial Area 1st Stage, Bangalore Tumkur Road BANGALORE 560058	{ 38 49 55 38 49 56
Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, BHOPAL 462003	6 67 16
Plot No. 82 83, Lewis Road, BHUBANESHWAR 751002	5 36 27
53/5, Ward No 29, R G Barua Road, 5th Byelane, GUWAHATI 781003	3 31 77
5-8-56C L. N Gupta Marg (Nampally Station Road), HYDERABAD 500001	23 10 83
R14 Yudhister Marg, C Scheme, JAIPUR 302005	{ 6 34 71 6 98 32
117/418 B Sarvodaya Nagar, KANPUR 208005	{ 21 68 76 21 82 92
Patliputra Industrial Estate, PATNA 800013	6 23 05
T.C. No. 14/1421, University P.O., Palayam TRIVANDRUM 695035	{ 6 21 04 6 21 17

Inspector Offices (With Sale Point):

Pushpanjali, First Floor, 205-A West High Court Road, Shankar Nagar Square, NAGPUR 440010	2 51 71
Institution of Engineers (India) Building, 135, ... Nagar, PUNE 411005	5 24 35

*Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep Street, Calcutta 700072

†Sales Office in Bombay is at Novelty Chambers, Grant Road, 89 65 28
Bombay 400007

†Sales Office in Bangalore is at Unity Building, Narasimharaja Square, 22 36 71
Bangalore 560002

Reprography Unit, BIS, New Delhi, India